

What is claimed is:

1. An optical wireless communication system including a transmitter having a first optical transmitting means for transmitting a first optical  
5 signal having narrow directivity and a receiver having a first optical receiving means for receiving said first optical signal and converting said first optical signal into an electric signal, wherein

said receiver comprising:

light-receiving level detecting means for detecting a light-receiving  
10 level of said first optical signal received by said first optical receiving means;

second optical transmitting means for transmitting a second optical signal which carries light-receiving level information of said first optical signal obtained by said light-receiving level detecting means and has  
15 directivity wider than that of said first optical signal;

said transmitter comprising:

a second optical receiving means including a plurality of light-receiving elements each having light-receiving capability for receiving said second optical signal at a level corresponding to the direction of said  
20 receiver;

a drive means for positioning said first optical transmitting means and said second optical receiving means by integrally shifting said first optical transmitting means and said second optical receiving means toward the direction of said receiver;

25 rough optical axis adjusting means for executing a rough optical axis adjustment by controlling said drive means so as to eliminate a difference in the light-receiving level of said plurality of light-receiving elements of said second optical receiving means;

fine optical axis adjusting means for executing a fine optical axis  
30 adjustment by controlling said drive means based on the light-receiving

level information contained in the second optical signal being received by said second optical receiving means, after the rough optical axis adjustment by said rough optical axis adjusting means is accomplished.

5           2. The optical wireless communication system in accordance with claim 1, wherein said plurality of light-receiving elements of said second optical receiving means are four photoelectric conversion elements arranged in a matrix pattern consisting of two lines and two rows in horizontal and vertical directions, and

10           said rough optical axis adjusting means executes the rough positioning of the optical axis in a total of eight directions based on the difference in the light-receiving level of said four photoelectric conversion elements.

15           3. The optical wireless communication system in accordance with claim 1, wherein said fine optical axis adjusting means searches a region wherein said light-receiving level information exceeds a predetermined value and executes the fine optical axis adjustment for the region identified by the search.

20           4. The optical wireless communication system in accordance with claim 1, wherein said fine optical axis adjusting means searches a relatively wide region when said light-receiving level information is relatively small, and said fine optical axis adjusting means searches a relatively narrow  
25           region when said light-receiving level information is relatively large.

          5. The optical wireless communication system in accordance with claim 1, wherein said fine optical axis adjusting means estimates a distance to said receiver based on said light-receiving level information, and  
30           accomplishes said fine optical axis adjustment.

6. The optical wireless communication system in accordance with claim 1, wherein transmitting said first optical signal by said first optical transmitting means is stopped until the light-receiving level of said plurality  
5 of light-receiving elements of said second optical receiving means exceeds a predetermined value.